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USPS-RT-11

BEFORE THE
POSTAL RATE COMMISSION
WASHINGTON, D.C. 20268-0001

POSTAL RATE AND FEE CHANGES, 2000

Docket No. R2000-1

REBUTTAL TESTIMONY OF
LLOYD RAYMOND
ON BEHALF OF THE
UNITES STATES POSTAL SERVICE

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AUTOBIOGRAPHICAL SKETCH

Please refer to the autobiographical sketch contained in my direct testimony, USPS-T-13.

PURPOSE AND SCOPE OF TESTIMONY

The purpose of this testimony is to rebut certain assertions made by MPA witnesses Crowder and Hay regarding the reliability and utility of Engineered Standards (ES) work sampling data produced and used by Postal Service witnesses in this proceeding. In particular, I show that witness Crowder's concerns regarding the reliability of the work sampling data are not well-founded, and that her attempt to discredit the work sampling data by using other videotaped information collected along with the work sampling data is misguided and produces incorrect results. I also explain why Ms. Crowder's specific criticisms of my classifications of certain work sampling tallies are wrong. In response to witness Hay's testimony, I show that this witness overstates his familiarity with the development of the ES data, as is demonstrated by statements he makes regarding the ES study.

My testimony also briefly addresses UPS witness Luciani's mischaracterizations of certain parcel handling operations, as well as his misuse of information contained in a document produced during my study.

1 **I. MPA WITNESS CROWDER'S CRITICISMS OF THE ENGINEERED**
2 **STANDARDS WORK SAMPLING DATA ARE FLAWED**

3
4 Witness Crowder advances several criticisms of the Engineered Standards work
5 sampling data that I provided to witness Baron for use in this case. I would like to
6 respond to these criticisms, which are, in the main, unjustified.

7 **A. Work Sampling Data Reliability Concerns Raised By MPA Witness**
8 **Crowder Reflect Misunderstandings Or Are Otherwise Without**
9 **Foundation**

10
11 Ms. Crowder has raised a number of concerns regarding the reliability of the ES
12 worksampling data supplied to Mr. Baron and the suitability of these data for
13 ratemaking purposes. Tr. 32/16152-64. I would like to respond to these concerns.

14 First, Ms. Crowder contends that the work sampling study was not a central
15 focus of the overall ES study, implying that this supposedly lower priority led to
16 circumstances in which the quality of the work sampling data was sacrificed in favor of
17 other objectives. Tr. 32/16152-54. Ms. Crowder is in error in this regard. The accurate
18 collection of work sampling data was among the highest of priorities in the overall effort,
19 and the quality of the work sampling data was in no way compromised by a focus on
20 other priorities.¹ In fact, the work sampling activity was the controlling activity for the
21 data collectors, with all other activities subordinated to the objective of taking a work
22 sampling tally every six minutes. As time and safety permitted, the collectors were also
23 to conduct time studies throughout the day, using the bar code approach which we
24 developed to permit overlapping of activities. The taking of video snippets was the

¹ The importance of the work sampling data is evidenced by the large number of reports that were produced to permit analysis of the data. See, e.g., LR-I-328. Hundreds and hundreds of hours have gone into evaluating the work sampling data.

lowest priority, to be accomplished as a fill-in assignment when safely possible. There were no minimum number of time studies or other demands placed on the data collection teams other than to get the work sampling observations every six minutes as long as they did not jeopardize their safety.

Ms. Crowder is also mistaken when she implies that the data collectors had so many different imperatives to follow, and so much work to perform, that the quality of the work sampling data collection must have suffered. See Tr. 32/16154-56. The data collectors were not over-worked. Typically, each collector worked a three and half day stretch followed by three and one-half days off. Based on my extensive experience designing and fielding work sampling, time studies and other engineering studies, this routine has worked quite well in the past, and worked well in this instance, allowing sufficient rest while still enabling accurate data collection during extended workdays.

The fact that multiple, overlapping activities were performed was not a handicap or hardship on the data collectors. The activities they performed during the day complemented each other to assist in collecting accurate data. As I have already stated, work sampling was the controlling activity, with a tally to be taken every six minutes. The remaining time between work sampling observations was free to be used for other activities such as the time study activities. The design of the bar code and scanner methods we employed permitted overlapping activities in a convenient, non-conflicting basis. It can be seen by reviewing the bar codes that time study and work sampling were very similar in nature, requiring no abrupt changes in data collection methods. The taking of quantitative data such as temperature, humidity, etc. was not a difficult task, and usually could be accomplished on an hourly basis. As mentioned

1 previously, the taking of video snippets was a low priority, to be accomplished when
2 possible.

3 The data collectors were not under unusual pressure to perform their duties,
4 since there were no minimum number of time studies or other demands on them
5 beyond the regular taking of work sampling observations. Moreover, that fact that data
6 collections teams consisted of two, and, in very many cases, three individuals (counting
7 Postal Experts out in the field in Phase 1, and Quality Assurance personnel and Postal
8 Experts in Phase 2), ensured that there was more than adequate staffing for the
9 workload. Furthermore, other than the goal of work sampling every six minutes, the
10 work of the teams was self-paced.

11 Ms. Crowder's concerns regarding the training of data collectors are likewise
12 overblown. Ms. Crowder's chief concern seems to be that, in her view, insufficient
13 training documentation was provided to the data collectors. Tr. 32/16156. What Ms.
14 Crowder fails to appreciate is that the data collectors, especially in Phase I, were
15 intimately familiar with the goals and design of the work sampling and other studies,
16 because they had been members of the team that, over the course of hundreds of
17 hours, designed the collection methodology in the first place. There was no need to
18 provide elaborate and extensive training materials to these team members, because
19 they were already familiar with the terminology and methods they were to employ.

20 All Phase 2 data collectors spent time training both with myself and with the
21 Postal Expert who continued throughout the project. The Phase 2 collectors also
22 received training from three roving Quality personnel who had been developers of the
23 approach and collectors in Phase 1. Replacement collectors/observers that came
24 onboard later also received intensive on the job training and training interaction with the

1 Postal Expert and myself. They would start out reviewing the documentation, have
2 guided discussion through the training videos, and spend two to three weeks as the
3 third member of a team receiving on-the-job instruction before moving on to be part of a
4 two person team. Then they would be paired with an experience observer. Typically
5 they would start out doing the less skilled part of the team's activities, such as driving
6 the chase car or doing videotaping, and, later, after gaining additional experience
7 regarding the appropriate methods, would participate in collecting the data. In this way,
8 discontinuities and inconsistencies among data collection teams were avoided.

9 It is true that the emphasis during the development of the study and afterward
10 was not on the creation of training materials, but on the training itself, and on exposure
11 to the actual conditions under which the data would be collected. I deliberately chose
12 this emphasis based upon my prior experience with work sampling in other contexts. I
13 have found that on-the-job training is superior to sitting in a room explaining what might
14 happen, or spending hours reviewing and/or creating training materials.

15 It is also very important to place the training issue in the context of the data
16 collection method we chose to employ. One of the main reasons we used a
17 hierarchical, progressive, automated technique involving bar code schemes and
18 programmable scanning equipment is that this method has been shown to be extremely
19 user friendly, and does not require a lot of knowledge or training on the part of the data
20 collector. The technique is similar to the menu screens used pervasively by consumers
21 at automated teller machines and many other devices. The user is presented with a
22 series of limited, clear choices, and, depending on the selection, is then presented with
23 another, different series of choices. We designed the barcoded activities to be distinct,
24 and easily distinguishable. In the work sampling study, the first level to be scanned is

1 the Location of the carrier when the scanner beeps. The choices include "Collection
2 Box", "Relay Box" "Gas Station" "Delivery Point", etc. Because of the simplicity of the
3 process, and based on my observations of the data collection, I do not believe that the
4 collectors had any significant problems accurately identifying the carrier's location, or
5 making accurate entries in the other levels.

6 **B. Witness Crowder's attempt to use time study from selected**
7 **videotapes to discredit the ES Work Sampling data is misguided and**
8 **filled with errors**
9

10 In her direct testimony, witness Crowder also attacks the use of work sampling
11 data in this proceeding on the basis of information derived from a limited set of
12 videotaped snippets of carrier activities. Tr. 32/16186-91. As I will explain, her attempt
13 to estimate load time percentages from these snippets is misguided and error-ridden
14 and otherwise fails to provide reliable estimates.

15 To see why Ms. Crowder's attempt is misguided, one first must understand the
16 nature of the videotapes she used. The main reason that I tried to collect video of
17 carriers' activities on the street was to be able to demonstrate to others who might later
18 evaluate the work sampling and time study data being collected (whether in the context
19 of a future labor arbitration or otherwise) that carrier activities were studied under a
20 wide variety of conditions, including weather conditions, times of day, route types, types
21 of deliveries, as well as age, gender, height, weight of the carriers being observed. I
22 also intended the tapes to demonstrate the rate at which particular activities had been
23 performed under particular conditions.

24 It is important to recognize, however, that the taped segments were *not* designed
25 to serve as the basis for estimating percentages of total carrier time spent on particular
26 activities. In fact, due to the nature of the video taping that was performed, these video

1 tapes are wholly unsuited to the task of calculating such percentages. The data
2 collectors were told to collect, if possible, and in a manner that would not interfere with
3 work sampling, time studies or carrier operations, approximately one half hour of video
4 taped carrier activities in the office, and another half hour on the street. The collectors
5 were instructed to tape short segments distributed at convenient times throughout the
6 in-office and street time they observed. The carriers were told to avoid taping of mail
7 recipients, or other postal customers, and to stay focused on the carrier.

8 The data collectors were not told to focus on particular activities, were not told to
9 tape uninterrupted examples of particular activities, and (other than being told to avoid
10 taping which would interfere with carrier functions or would create unsafe conditions)
11 were not told when to begin taping a segment or when to stop taping. The collectors
12 were not instructed to follow any systematic or random pattern in choosing segments to
13 tape. Under these guidelines, the typical result was a series of short segments of non-
14 continuous, truncated carrier activities, taken whenever the data collector decided to
15 take them.

16 Because the taped carrier activities are truncated, and, in some cases,
17 characterized by missing segments in the middle of the activity, it is impossible to
18 discern in any scientific and reliable way when many of the activities on the tapes
19 began and/or ended. It is clear that such incomplete activity cycles cannot be used to
20 estimate the proportion of time spent during the day on particular activities.²
21 Furthermore, even if all such truncated and incomplete segments were discarded, there
22 is very little chance that the remaining segments from the taped snippets would provide

² In fact, the longer the time a particular activity took, the more likely that it would be truncated by the cameraman.

1 sufficient information to estimate such percentages. The video tapes were simply not
2 intended or designed to be used in this way.

3 Even if the tapes, in general, had been suitable to conducting time studies such
4 as those attempted by Ms. Crowder, she did not employ a set of tapes which accurately
5 represented carrier street activities nationwide. First, as Ms. Crowder acknowledges,
6 she used data relating to only 11 routes, or 19 route days, only a very small percentage
7 of the information contained on the 933 available videotapes, and only a small
8 percentage of the 844 route days contained in the data that I provided to witness
9 Baron. The routes she focused on were park and loop routes. Due to the types of
10 receptacles involved in such routes, park and loop routes generally are characterized
11 by lower than average load times. Ms. Crowder's selection of such routes thus biased
12 her already unreliable analysis in the direction of low load times.

13 The routes selected by witness Crowder are atypical in other ways as well, in
14 ways that one would expect to lessen average load times on her selected routes. Most
15 of the route days she studied (14 of 19) fell in good weather months, between May and
16 September.³ The volumes on the routes she selected were considerably lower than the
17 ES average.⁴ Total volumes on Ms. Crowder's selected routes were only 73.4% of the
18 ES average. Letter volumes on Ms. Crowder's routes were only 75.3% of the ES
19 average, flats were 78.8% of the ES average, parcels were 87.9% of the ES average,
20 accountables were 58.1% of the ES average, and DPS volumes on her routes were
21 only 69.7% of the ES average. Of the receptacles on the routes Ms. Crowder selected,
22 over half (50.2%) were the easiest types to load (so-called "1 Hand Slam" receptacles),

³ See MPA-LR-7.

⁴ See Tr. 18/7503-24.

1 whereas in the data provided to witness Baron, only 7.4% were of this type. Similarly,
2 14.9% of witness Crowder's routes had "Drop to Customer" loading activities, one of the
3 quickest types of loading, compared to 9.9% for witness Baron.

4 Ms. Crowder's results not only are biased, but her analysis is contaminated by a
5 large number of obvious errors. First, she generally included at the start and end of
6 each taped sequence of carrier activity some amount of "interstop" time (also referred
7 as "FAT run time"). Thus, for a sequence with one loading activity, she included twice
8 as many run time observations as load observations. All other things equal, this
9 tendency to over-include run time would bias her results towards lower load time
10 proportions.⁵

11 Second, Ms. Crowder included in her study tape sequences in which the carrier's
12 actions at the delivery point are blocked from view (for example, by a bush, or a
13 building, or because the carrier's back is turned to the camera). In some cases the
14 carrier is not videotaped at all; the observer is recording a dog or other obstruction to
15 the carrier. In such instances, Ms. Crowder assumed, without any basis, that a
16 particular activity had occurred.

17 Third, Ms. Crowder included obviously truncated activities in her analysis. For
18 example, she included instances where the videotape starts or stops while the carrier is
19 in the process of making a delivery. Witness Crowder includes this incomplete and
20 unfinished "load" as a complete "load" sequence, thereby understating the proportion of
21 load time.

⁵ By including this additional "FAT" time, Witness Crowder considers each time sequence on the videotape to be a complete "Loop" of a "Park and Loop" delivery sequence and/or a Dismount. This time study method is in direct conflict with Ms. Crowder's methodological guidelines stated on the top of pages 14 and 15 of Library Reference MPA-LR-7.

1 Fourth, Ms. Crowder included sequences in which the taping was discontinued in
2 the middle of the sequence, and then restarted prior to the end of the sequence,
3 creating gaps in which significant amounts of time passed but no activity was recorded.
4 In all such instances, the unrecorded time was inexplicably included in run time,
5 introducing bias in the direction of lower load time proportions.

6 Fifth, Ms. Crowder misidentified obvious loading activities as run time activities.
7 For example, there are instances in which the carrier has inadvertently dropped a piece
8 of mail on the ground at a delivery point, a loading activity which Ms. Crowder included
9 in FAT run time.⁶

10 Yet another indication of the unreliability of Ms. Crowder's videotape analysis is
11 the wide, unexplained variances in the two stopwatch measurements of load time taken
12 by her team. Examination of Ms. Crowder's spreadsheets MPA_Merrifield1.xls,
13 MPA_Merrifield2.xls, and MPA_Merrifield3.xls,⁷ reveals many such inexplicable
14 variances in the load time measurements recorded in columns G and H. Consider, for
15 example, Route 6410, CY51, 5/28/97 from spreadsheet MPA_Merrifield2.xls, tab MPA
16 Data2. The load times recorded for one observation, in cells G244 and H244, are
17 12.28 and 18.94 seconds, respectively. In this case, the second measurement is

⁶ Ms. Crowder also improperly excluded a number of sequences from her analysis for no apparent reason. In her analysis of LR-I-342, for example, she did not include a delivery at 2:38:20 PM, in which as carrier spends approximately 35 seconds filling out a notice at a delivery point. In her analysis of LR-I-348, she excluded a significant instance of customer contact at 11:23:42 am. Similarly, in her analysis of LR-I-364, she did not time study the carrier stopping to check for a collection at 12:04:33 AM. In her review of LR-I-375, she excluded several business deliveries at the beginning of the outside portion of the videotape, although the carrier is clearly delivering to the businesses as part of a park and loop type delivery.

⁷ These spreadsheets are found in MPA-LR-7 - Workpapers Supporting MPA-T-5, Direct Testimony of Antoinette Crowder.

1 almost 7 seconds larger than the initial measurement. Or consider Route CY55, Route
 2 611, 6/5/97 from spreadsheet MPA_Merrifield3.xls. The load times recorded for one
 3 observation, in cells G160 and H160, are 1.85 and 9.85 seconds, respectively. In this
 4 case, the second measurement is 8 seconds, or *432 percent*, larger than the initial
 5 measurement.⁸

6 As an expert in the proper conduct of time studies, I am alarmed in the extreme
 7 by these wide measurement variances. In my experience, two competent time study
 8 data collectors, measuring the same activity, should be expected to record time values
 9 that vary by no more than plus or minus five percent. Most unions and management
 10 negotiating teams with whom I have dealt would not accept variances even as large as
 11 five percent. In a circumstance in which repeated trials could be performed, as in this
 12 case, where the tape could be rewound and the activity measured again, I would expect
 13 the variance to be even narrower. I can only conclude that those persons with whom
 14 Ms. Crowder conducted her time measurements were so inexperienced that they could
 15 not time study events accurately, or they could not reach fundamental agreement
 16 regarding the definition of the activities being studied, or both. In any event, such wide

⁸ Other examples of widely-varying measured stop times abound. Examples from spreadsheet MPA_Merrifield1.xls (tab MPA Data) include cell G24 (with and entry of 3.12 seconds) vs. cell H24 (entry of 5.25 seconds); G145 (3.25) vs. H145 (.34); and G179 (3.5) vs. H179 (1.41). Examples from MPA_Merrifield2.xls, (tab MPA Data) include cells G37 (4.56) vs. H37 (2.34); G47 (9.02) vs. H47 (6.03); G50 (9.22) vs. H50 (15.16), G51 (18.91) vs. H51 (15.72), G53 (17.16) vs. H53 (19.78), G54 (12.87) vs. H54 (16.75), G111 (9.75) vs. H111 (4.69), G116 (6.43) vs. H116 (4.19), G131 (6.34) vs. H131 (4.03), G228 (4.81) vs. H228 (2.72). Examples from spreadsheet MPA_Merrifield2.xls (tab MPA Data2) include cells G12 (6.00) vs. H12 (10.25), G16 (5.09) vs. H16 (7.1), G112 (1.53) vs. H112 (3.97), G126 (10.41) vs. H126 (15.62), G167 (13.09) vs. H167 (9.56), G168 (13.35) vs. H168 (15.47), G182 (6.53) vs. H182 (2.38), G207 (3.97) vs. H207 (7.19), G229 (4.25) vs. H229 (6.94), G240 (5.18) vs. H240 (7.41), G243 (2.19) vs. H243 (4.47). Examples from MPA_Merrifield3.xls (tab MPA Data) include cells G30 (3.10) vs. H30 (.78), G54 (15.50) vs. H54 (17.56), G129 (8.21) vs. H129 (10.4), G158 (5.87) vs. H158 (7.96), G161 (5.91) vs. H161 (2.97).

1 variances would invalidate Ms. Crowder's time studies under the standards of my
2 profession.

3 **C. Many of the supposedly anomolous load time tallies questioned by**
4 **witness Crowder can be accounted for.**

5
6 In her testimony and responses to questions, witness Crowder has identified
7 what she considers to be a number of instances in which particular work sampling
8 tallies had been placed in incorrect STS categories. See, e.g., Tr. 32/16162-64, and
9 Response of Magazine Publishers of America, Inc. Witness Crowder to Questions
10 Raised at the Hearing, filed July 27, 2000. Even though the number of specific
11 instances Ms. Crowder identified are relatively few in number when compared to the
12 over 38 thousand tallies in the work sampling data set, I would like to point out that
13 even in these few instances, many of the tallies were, in fact, properly categorized.

14 It should be noted at the outset that witness Crowder focused her criticism on
15 Library Reference USPS-LR-I-163, the data set initially provided to witness Baron. In
16 confining her attention to this library reference, she overlooked the fact that several
17 tallies had already been corrected before she filed her testimony, in library reference
18 LR-I-337 (filed May 16, 2000). In this library reference, 52 tallies were reassigned from
19 load time to street support. These are the same tallies identified by witness Crowder in
20 her July 27, 2000 response to questions raised at hearing, which she identifies as "On
21 Route Location *Load* Tallies with Confused Codes : Parcel (walk flat detail)".

22 The next set of supposedly misclassified tallies identified by witness Crowder are
23 30 tallies she identified in her July 27 response as "Vehicle and Park Point Location
24 Load Tallies With Confused Codes: Finger @ Delivery (LLV detail for Dismount delivery
25 type)". Ms. Crowder questions the validity of the load time classification on the basis
26 that, in her view, load time cannot be occurring at the vehicle if other detail codes (such

as an LLV detail code) indicate that the carrier is, in her view, not at the delivery point. Her supposition, however, is incorrect. There clearly are occasions in which the carrier will be recorded as at the vehicle, which may be an LLV, and may still be engaged in loading activity. Picture, for example, a carrier in the vehicle (LLV) fingering the mail as it is done for a Curb delivery, but, because he has accountables to deliver, or otherwise must dismount, he departs the vehicle and walks to the recipient's door, where he stops and recommences loading activities. I contend that the fingering at the stopped vehicle is most appropriately considered load time. This fingering would have been considered load time if the carrier did not need to dismount, but merely needed to reach to the curbside receptacle and deposit the mail. I see no reason to change the classification merely because of the presence of accountables, or any other cause of a dismount.

Ms. Crowder also questions the validity of 27 load tallies identified as "Point of Delivery Location Load Tallies with Confused Codes: Finger @ Delivery (LLV detail and Dismount delivery type)". Again, there is no reason to believe that these tallies are not properly classified as load time. Consider the periodically occurring situation where the delivery type ordinarily is a dismount (and hence was recorded as a dismount type), but on this occasion, the customer chooses to meet the carrier at the LLV. The carrier remains in the LLV, fingers the mail, and hands it to the customer. This is clearly a load activity, and there is nothing questionable or "confused" about either the classification or the set of scans upon which it was based.

Ms. Crowder is also incorrect when she disputes the assignment to load of the 26 tallies she calls "Vehicle and Park Point Location Load Tallies With Confused Codes: Delivery /Collection (various detail codes for Dismount delivery Type)." Picture a delivery point that has a grass berm between the road and the box location that

1 ordinarily is served as a Dismount, but the carrier elects to treat it as if it was a Curb
2 stop (because he unadvisedly drives over the curb, grass and/or sidewalk, and loads
3 the box without leaving the vehicle after fingering the mail). There were a small number
4 of different locations where we observed this improper conversion of one type of
5 delivery to another type to suit the carrier's personal inclinations. Nevertheless, the tally
6 properly records it as a dismount type, and the tally properly is classified as load time.

7 Finally, Ms. Crowder incorrectly criticizes the assignment to load of 16 tallies she
8 identifies as "Point of Delivery Location Load Tallies with Confused Codes: Travel b/t
9 Delivery (LLV detail)". We sometimes observed customers receiving their mail while the
10 carrier was driving his LLV slowly along the route, sometimes stopping, sometimes not.
11 While it may not be advisable for carriers to hand mail to customers while moving, I can
12 attest that it does happen. In these instances, the best practice was to record the
13 location as at the delivery point, the activity as travel between delivery points, whomever
14 confused that might appear.

15 I could discuss the remaining small numbers of so-called "confused codes"
16 identified by witness Crowder,⁹ but I believe I have made my point. The Commission
17 should regard critically witness Crowder's allegations regarding the interpretation of
18 particular tallies.

19 **II. WITNESS HAY'S LACK OF FAMILIARITY WITH THE ENGINEERED**
20 **STANDARDS STUDY UNDERLIES HIS MISESTIMATION OF THE UTILITY OF**
21 **ES WORK SAMPLING DATA IN THIS PROCEEDING.**
22

23 Over the course of this proceeding I have tried to keep informed of all testimony
24 relating to my direct testimony, and to the Engineered Standards Study that I

⁹ For example, I have yet to locate 8 tallies matching Ms. Crowder's identification of "Setup (LLV or Jeep detail for Park & Loop or Dismount delivery type)".

1 conducted. I thus read the direct testimony of MPA witness Hay with great interest. At
2 various points in his testimony, Mr. Hay implies that the ES work sampling data that I
3 collected should not be relied upon in this rate proceeding because the study was not
4 specifically designed for use in a rate proceeding and because the data supposedly
5 possess a number of characteristics that make them unsuitable for postal ratemaking.
6 Tr. 27/13077-78, 13086-92. Witness Hay claims that he is qualified to make such an
7 assessment of the ES study and work sampling data in large part because of his
8 involvement in A.T. Kearney's Data Quality Study. Tr. 27/13076.

9 I have a number of concerns regarding witness Hay's testimony. Chief among
10 these concerns is witness Hay's lack of familiarity with the study and data that he
11 criticizes. As I was in charge of the Engineered Standards Study from start to finish, I
12 am best qualified to know all persons involved in the study, and the extent of their
13 involvement. Based on my experience with the study, I can state with certainty that
14 neither witness Hay, nor any other member of A.T. Kearney's Data Quality Study team,
15 had any significant involvement in, or exposure to, the ES study. Prior to the
16 completion of A.T. Kearney's Data Quality Study, moreover, witness Hay and other
17 members of the Data Quality Study team had such extremely limited access to the ES
18 study data, design, implementation, methods, and reports, that it would have been
19 impossible for them to conduct a valid assessment of the suitability of the work
20 sampling data for particular purposes, such as use in a postal rate case.

21 A. T. Kearney was not involved in the technical aspects of the project, and had only
22 very limited management exposure. Furthermore, A.T. Kearney did not have access to
23 any ES data until February of 1999 (with access to additional data again in October

1 1999), long after witness Hay's involvement in the Data Quality Study had concluded.¹⁰
2 Due to its sensitive nature, and anticipated use in labor negotiations, the ES data were
3 very tightly controlled and even the Postal Service received only preliminary reports in
4 February of 1999. To the best of my knowledge, neither I, nor anyone else on my team
5 ever released or even discussed ES data with the Data Quality Study team, including
6 witness Hay.¹¹

7 Mr. Hay's lack of familiarity with the ES study leads him to make a number of
8 misstatements in his testimony. For example, at page 14 of this testimony, Mr. Hay
9 states:

10 However, Mr. Raymond had his enumerators also doing a
11 variety of other activities, such as taking video pictures, recording
12 paces walked, at the same time as tallying the observations. Tallies
13 were given a lower priority than these other activities, with the
14 enumerator entering the information from memory some minutes later.

15
16 Tr. 27 at 13087.

17 As I have discussed previously in connection with Ms. Crowder's testimony, work
18 sampling tally taking was not a low priority, but a first priority. In those rare occasions in
19 which a data collector was delayed in recording a tally, the source of the delay, whether
20 it be safety related, weather related, equipment related, or whatever, the tally taking
21 would remain the highest priority once the cause of the delay had been resolved. It
22 should also be noted, that in the above-quoted sentences, Mr. Hay is assuming that
23 one data collector was performing all of the data collection functions. This was not

¹⁰In his response to Interrogatory NAA/MPA-T4-1, witness Hay reported that he was involved with the Data Quality Study from "June 20 through September 30, 1998" and billed for hours from "w/e 7/10/98" through "w/e 10/3/98".

¹¹I recently reviewed portions of the A.T. Kearney Data Quality Survey final report, issued April 16, 1999. After reviewing "Appendix A: Key Study Team Members," I can attest that no one on A. T. Kearney's Key Study Team had anything to do with the substance of the ES work.

1 always the case, as the data collectors worked in teams, and often one handled certain
2 tasks such as video taping, while the other handled scanning of observations.

3 Mr. Hay also mischaracterizes the training of our data collectors, when he states
4 that "the majority of the training for Mr. Raymond's study focused on factors of
5 importance to the Engineering Study, i.e., video training, how to enter the information
6 with the bar code reader, how to identify the various activities and types of mail
7 receptacle (sic) rather than maintaining the consistency and accuracy of cost-related
8 data collection." Tr. 27/13088. Mr. Hay provides no basis for this statement, perhaps
9 because it is unsupportable. Although we did not know, at the time, that our data would
10 be used in a proceeding such as this, we were very aware of the importance of
11 collecting accurate and consistent data that would show how carriers go about
12 delivering the mail, and how a carrier's day can be broken into distinct activities. In
13 training sessions Mr. Hay certainly did not attend, as well as on-the-job training he did
14 not witness, we covered all aspects of the data collection methods that would lead to
15 accurate and consistent results usable in a future labor arbitration, or in any other
16 proceeding in which accurate, consistent and reliable data on carrier activities would be
17 needed.

18 Mr. Hay also implies that my data collectors did not keep adequate logbooks. Tr.
19 27/13088. On the contrary, as Mr. Hay would have known if he were familiar with our
20 methods, each data collector maintained a Daily Comments log containing any
21 suggested modification to the data, questions regarding how to handle particular
22 situations, general comments regarding conditions affecting the data collection, and the

1 like. To disparage these daily logs as "notes ... that are buried in volumes of other raw
2 data," as does Mr. Hay (Tr. 27/13088), does not do justice to these comment logs.¹²

3 **III. WITNESS LUCIANI MISCHARACTERIZES PARCEL OPERATIONS**
4

5 In his testimony, UPS witness Luciani (UPS-T-5) likens the action of loading
6 parcels into delivery vehicles to the in-office activity of sorting, casing, pulling down
7 mail, and placing trays and tubs of mail into a hamper. Tr. 25/11783-85. The
8 implication made is that these two operations are the same, just carried out in different
9 locations. Based on this assumption of similarity, witness Luciani recommends that the
10 cost of "sequencing parcels" at the vehicle be attributed to parcels, using particular time
11 standards which I developed for possible future use by the Postal Service. *Id.*

12 I have two basic concerns regarding Mr. Luciani's proposal. First, as I indicated
13 at an earlier stage of this proceeding, the loading of parcels into a delivery vehicle is not
14 the same activity as sorting, casing, pulling down and placing of parcels into hampers in
15 the office. See, e.g., Tr. 19/8082-84. The in-office activities are precise and complex.
16 The process of placing the parcels in the vehicles, on the other hand, typically is not
17 placing the parcels in the proper delivery order, but is a very casual process. Carriers
18 are only attempting to get parcels to the point where they know which one to deliver first
19 and in a very general route delivery sequence. At the vehicle, carriers do not make
20 certain that the parcels are placed in an exact delivery sequence, and thus they do not
21 spend the same amounts of time "sequencing" parcels as they would in the office.
22 Their main objective is to load the vehicle; the sequencing of parcels is a collateral,

¹² In making such these and other such remarks, Mr. Hay, who did not personally review the volumes of data he describes, appears to be relying on descriptions provided to him by others.

1 subordinate activity to be accomplished with varying degrees of precision depending on
2 the number of parcels to be delivered and the carrier's urgency to reach the street.

3 I also question Mr. Luciani's application of engineered methods and standards
4 as the basis for his calculations of time spent sequencing parcels at the vehicle. In his
5 calculations, Mr. Luciani relies in part on time standards found in one of several
6 Standard Operating Procedures documents that I prepared as part of my work for the
7 Postal Service. It must be recognized at the outset that the time standards used by Mr.
8 Luciani have not been implemented by the Postal Service at this time and may not be
9 implemented in the foreseeable future. Second, it would be incorrect to assume, as Mr.
10 Luciani does, that carriers currently are not meeting or beating particular time standards
11 included in the Standard Operating Procedures documents. The carriers' actual
12 performance may be significantly different than the standards imply, especially given
13 the short cycle time associated with loading of parcels into vehicles. I would expect that
14 under my recommended work methods, carriers would sequence parcels in a more
15 precise, deliberate manner than they do now, spending more time at the vehicle than
16 they do now. I therefore cannot agree with Mr. Luciani's assumption that "city carriers
17 are likely not yet meeting those time standards" or with his assertion that "the cost per
18 piece for sequencing parcels obtained using the results of the time standards is a
19 conservatively low estimate." See Tr. 25/11784.